

DNA Base sequencer

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Abstract

The improved DNA base sequencer comprises a flat plate type gel electrophoretic means (74) that has a multiple of tracks (88) for electrophoresing DNA fragments (76) and which is held in a vertical position, a light exciting laser light applying means that applies laser light (90) to the respective tracks in said electrophoretic means from one lateral side thereof in such a way that it crosses said tracks at right angles, and a fluorescence detecting means that detects the fluorescence as generated from the DNA fragments illuminated with the laser light and which converts the detected fluorescence to an electric signal, and it is characterized in that the fluorescence detecting means comprises a fluorescence condensing lens, fluorescence filtering means (5) and a solid-state imaging device (7), (e.g., a CCD line sensor), said fluorescence filtering means being composed of at least two filters that selectively transmit fluorescences having different wavelengths and that are staggered with each other along a common longitudinal axis. The sequencer achieves a sensitivity and resolution at least comparable to those attained by the prior art apparatus and which yet is capable of detecting multi-color labelled samples by

means of simpler detection optics.



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